What is claimed is:

1. A logarithmic conversion system that determines a logarithm of a number, the logarithm having an associated base, comprising:

an integer determination portion, that determines an integer value associated with the logarithm;

an interpolation portion that performs a linear interpolation of the number over a range defined by two consecutive integer powers of the logarithmic base, to obtain a mantissa value, the consecutive integers including the integer value; and

at least one correction stage, each of the at least one correction stages applying a correction factor to the mantissa value.

2. The system of claim 1, the correction factor applied at each of the at least one correction stages being a function of the mantissa value.

3. A video correction system comprising the system of claim 1.

4. A logarithmic conversion system, comprising:

a leading one detector that determines the position of the leading one of a binary number to determine an integer value;

at least one multiplexer that shifts the digits of the binary number such that the digit following the leading one occupies a first bit position of the number to determine a mantissa value; and

at least one adder operative to add a value to the mantissa value.

5. A video correction system comprising the system of claim 4.

6. The system of claim 4, the at least one adder comprising a first adder that receives the mantissa value as a first input and a sample of the

mantissa value processed at one or more logical circuitry components as a second input.

7. A method for determining the logarithm of an input value, the logarithm having an associated base comprising:

determining an integer value associated with the logarithm;

performing a linear interpolation of the number over a range bounded by consecutive integer powers of the logarithmic base to obtain a mantissa value, the consecutive integers including the integer value; and

adding at least one correction factor to the mantissa value.

8. The method of claim 7, the input value being represented in binary form, and the determination of an integer value associated with the logarithm comprising detecting the location of the leading one of the input value.

9. The method of claim 8, the performance of the interpolation comprising shifting the digits of the binary value such that the digit following the leading one occupies a first bit position of the binary value.

10. The method of claim 7, each of the at least one correction factor being a function of the mantissa value.

11. An inverse logarithmic conversion system that receives an input value, comprising an integer value and a mantissa value and determines the inverse logarithm of the input value for a predetermined base, comprising:

at least one precorrection stage, each precorrection stage applying a correction factor to the mantissa value, producing a precorrected mantissa value; and

a restoration portion that adds a value derived from the integer value to the precorrected mantissa and multiplies the precorrected mantissa value by a

restoration factor qual to the difference between two consecutive integer powers of the logarithmic base, the consecutive integers including the integer value.

12. A video correction system comprising the system of claim 11.

13. The system of claim 11, the correction factor applied at each of the at least one precorrection stage being a function of the mantissa value.

14. An inverse logarithmic conversion system that produces the inverse logarithm of an input value comprising an integer value and a mantissa value:

at least one adder that applies a correction factor to the mantissa value;

a header portion that adds a leading one to the mantissa value; and

at least one multiplexer that shifts the digits of the binary number such that the leading one occupies a bit position associated with the integer value.

15. A video correction system comprising the system of claim 14.

16. The system of claim 14, the at least one adder comprising a first adder that receives the mantissa value as a first input and a sample of the mantissa value processed at one or more logical circuitry components as a second input

17. A method for determining the inverse logarithm of an input value, the logarithm having an associated base comprising and the input value comprising an integer value and a mantissa value, comprising:

applying at least one precorrection factor to the mantissa value;

adding a value derived from the integer value to the precorrected mantissa; and

multiplying the precorrected mantissa value by a restoration factor equal to the difference between two consecutive integer powers of the logarithmic base, the consecutive integers including the integer value.

18. The method of claim 17, the mantissa being represented in binary form, and the addition of an value representing the integer value of the logarithm comprising adding a leading one to the mantissa value.

19. The method of claim 18, the multiplication of the precorrected mantissa value by a restoration factor comprising shifting the digits of the binary number such that the leading one occupies a bit position associated with the integer value.

20. The method of claim 17, the at least one precorrection factors each being a function of the mantissa value.

21. A logarithmic conversion system for determining the logarithm of an input value, the logarithm having an associated base comprising:

means for determining an integer value associated with the logarithm;

means for defining a range bounded by consecutive integer powers of the logarithmic base, the consecutive integers including the integer value;

means for performing a linear interpolation of the number over the defined range to obtain a mantissa value; and

means for adding at least one correction factor to the mantissa value.

22. An inverse logarithmic conversion system that determines the inverse logarithm of an input value, the logarithm having an associated base comprising and the input value comprising an integer value and a mantissa value, comprising:

means for applying at least one precorrection factor to the mantissa value;

means for adding a value representing the integer value of the logarithm to the precorrected mantissa; and

means for multiplying the precorrected mantissa value by a restoration factor equal to the differ nce between two consecutive integer powers of the logarithmic base, the consecutive integers including the integer value.